

that this is the case also in *Salmacina Dysteri* and the *Spirorbes*. In these different animals the excreted corpuscles have the value of *rudimentary cells* having an atavic signification, and cannot properly be called polar corpuscles. This name, on the contrary, applies to the non-cellular materials, which, being rejected by the vitellus, serve for the formation of the accessory organs of the ovum; for example, the shell or the vitelline membrane. Such are the hyaline vesicles of the ovum of *Rhizostoma Cuvieri*.—*Comptes Rendus*, March 19, 1877, p. 564.

Vertigo Moulinsiana, Dupuy.

This interesting and local little land-shell has been lately discovered by Mr. Henry Groves, while botanizing, in a small marsh between Winchester and Southampton. See 'British Mollusca,' i. p. 256, and v. (Suppl.) p. 160. Mr. Groves's specimens are rather more swollen or barrel-shaped than mine from the west of Ireland; and they agree exactly with some Danish specimens, for which I am indebted to the kindness of Dr. Mörch, as well as with the descriptions and figures of Dupuy and Moquin-Tandon. Küster and Kreglinger called it *V. Charpentieri*, after a MS. name given by Shuttleworth. Heyneman described it as *V. ventrosa*, and Westerlund as *Pupa Lilljeborgi*. Dupuy's name (*Moulinsiana*) dates from 1849, and has priority.—J. GWYN JEFFREYS.

*Sponges Dredged up on board H.M.S. 'Porcupine' in 1869-70,
Returned. By H. J. CARTER, F.R.S. &c.*

By reference to my communication on Sponges dredged up on board H.M.S. 'Porcupine' in 1869-70 ('Annals,' 1876, vol. xviii. p. 226), it will be observed that they were *then* in my possession; and being the property of the Nation, I have now to add what I have done with them, which will be told by the following letter:—

(Copy).

" 'The Cottage,' Budleigh-Salterton, Devon.
24th March, 1877.

"MY DEAR THOMSON,—I have this day forwarded to the address you gave me in your letter of the 14th inst., viz. '1 Park Place, Edinburgh' (carriage unpaid, as they came to me), three boxes containing all the Sponge-specimens (both wet and dry), dredged up on board H.M.S. 'Porcupine' in 1869-70, which you sent in 1872, excepting about as much as would fill a hen's egg, which has been chiefly used in their examination.

"I took the boxes (also addressed 'To Scotland *via* Midland Railway') to the office of the Bristol and Exeter line in Queen Street, Exeter, *myself*, and saw the clerk write 'Van Rail' on each of them, stating that they would reach their destination on Monday next, which I trust may be the case—and safely, too, as, to insure this, all reasonable care has been taken in packing and addressing them both *outside* and *in*.

"The covers have been screwed on, so that there will be no occasion to use force in opening them; and each box has been corded both for further security and for furnishing them with a handle respectively, whereby they may be removed from place to place easily and without any excuse for turning them upside down.

"The boxes respectively contain *all* the Jars you sent me, viz. 108, and the same JARS too, with their contents respectively, exactly as I received them, *minus* the quantity above mentioned; but with the addition of a few small bottles into which respectively some of the smaller Type specimens have been put to avoid confusion. And, although all have had their stoppers tied down where necessary, yet as these do not in all instances fit tightly, and a few of the smaller Jars have been laid on their sides for convenience, while their contents respectively are only just covered by spirit with the usual bit of muslin, it seems to me desirable that they should be unpacked directly after their arrival, and sufficient spirit added to prevent the occurrence of mildew, whereby, for accuracy of detail, the minute examination of a sponge is destroyed.

"Each Jar has *my* 'running number' on it *outside*, besides the same number in pencil on vellum loose *inside*. The Type specimens respectively, in each Jar too, are labelled on the latter *outside*, and ticketed *inside* with the letters 'T. S.' in pencil, also on vellum.

"Moreover, I herewith enclose a MS. Catalogue of all the Jars and the dry specimens respectively, in which also the 'running number' of the Catalogue will be found to correspond with that on the Jars &c., respectively, as follows:—The first column contains the 'running number;' the second the figures on the *original* label of the Jar when it reached me, which were *then fortunately* copied, as they are now, in many instances, obliterated; the third column bears a list of the Sponge-specimens contained in each Jar, with the Type specimens written in *red ink* for distinction, and the rest in common dark ink—the former ticketed as above mentioned, and the latter *unticketed*, as it is assumed that these, which have been long since described and illustrated, will be easily recognized. Lastly, the fourth column, headed 'Remarks,' is intended for further elucidation of the specimens, as well as to indicate the volumes &c. of the 'Annals and Magazine of Natural History,' respectively, in which the Type specimens have been described and illustrated.

"It also seems to me advisable that *all* the Type specimens should at once be taken out from their Jars respectively and put into Jars of their own by themselves; for some of them are in great plurality, dispersed throughout the collection, and others single or at present unique; whereby they would be ready for distribution, as you state that 'they will be sent to the British Museum with the "Challenger" collections.'

"Finally, the dry specimens will be found in the same two little boxes in which they came to me, inclosed in one of those mentioned, also numbered in accordance with the list at p. 39 of the Catalogue.

"A 'Postal Card' addressed to myself, with the words 'All has arrived safely' written on it, is also herewith enclosed to save you trouble in sending this acknowledgment to me by return of

post if convenient, after the receipt of the Boxes, with these words alone, or instead of them any other observation you consider necessary.

"As stated to you before, I can vouch for the accuracy of what I have published respecting the Type or New Specimens among these Sponges; and that is all that Science requires or can demand, either from my head or my pocket, *gratuitously*.

"I am, my dear Thomson,

Yours very truly,

"To (Signed) HENRY J. CARTER."
 Professor Sir Wyville Thomson,
 20 Palmerston Place,
 Edinburgh."

Of the Boxes having reached their destination I had notice by the receipt of the "Postal Card" on the 28th March, signed "C. Wy. T.," and stating that they had "arrived all right," but had "not" been "opened." So far I am no longer accountable for these specimens.

Budleigh-Salterton, April 25, 1877.

On the first Phenomena of the Development of Echinus miliaris.

By M. A. GIARD.

The important controversies to which the investigation of the first development of the egg of the Echinodermata have given rise have led me this winter to undertake a series of researches upon the common urchin of the shores of the Boulonnais, *Psammechinus miliaris*. As a term of comparison in some difficult points I had the eggs of the common starfish (*Asteracanthion rubens*). The spawning ceases in both species towards the end of March.

The methods employed by me are those of direct observation and of coloured preparations. The latter were especially useful for the observation of the *caryolytic figures* (Auerbach) or *amphasters* (H. Fol). I obtained excellent results by employing acetic acid, ammoniacal carmine, and picric acid, applying these reagents successively and in very small quantities. The preparations thus obtained are very beautiful; but, unfortunately, they cannot be preserved more than a few days.

Besides the mucous envelope the egg of *Echinus miliaris* possesses a very delicate vitelline membrane, and this even before fecundation, as has been asserted with regard to allied species by O. Hertwig and Perez. A little while before maturity the germinal vesicle presents the reticulum characteristic of old nuclei. The nucleolus contains an irregular nucleolus. When the egg is mature, the germinal vesicle quits the central point and enters upon regression. Its elements, mingled with those of the nucleolus, form an amœboid mass with more or less torn outlines, which soon attains the periphery of the vitellus, when it divides into two parts, producing a caryolytic figure. One of the stars is directed towards the centre of the egg, and very rapidly acquires the form of a rounded nucleus. It is this nucleus that O. Hertwig regards as the germinal spot, which has escaped the transformation affecting the germinal